

(19) 世界知的所有権機関
国際事務局(43) 国際公開日
2004 年 5 月 6 日 (06.05.2004)

PCT

(10) 国際公開番号
WO 2004/038350 A1

(51) 国際特許分類: G01J 3/443, G01N 21/64, 21/78

(21) 国際出願番号: PCT/JP2003/013517

(22) 国際出願日: 2003 年 10 月 23 日 (23.10.2003)

(25) 国際出願の言語: 日本語

(26) 国際公開の言語: 日本語

(30) 優先権データ:
特願 2002-311726

2002 年 10 月 25 日 (25.10.2002) JP

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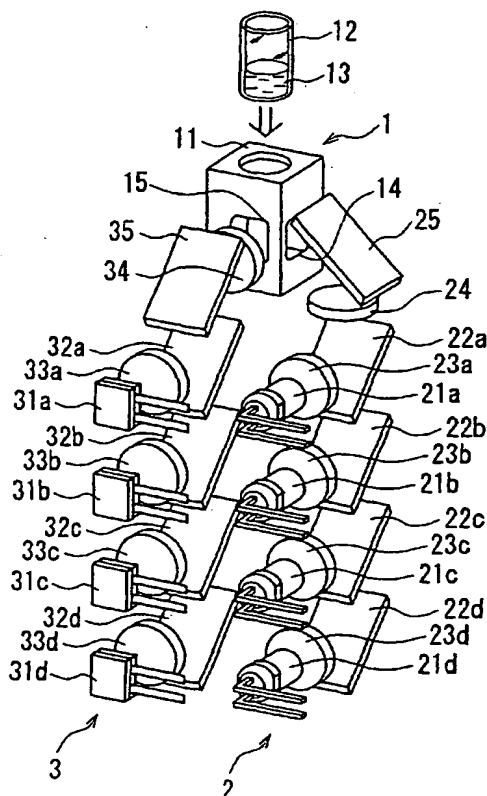
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BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK,
DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS,
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI,

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(54) Title: LIGHT SOURCE UNIT, LIGHT-RECEIVING UNIT, AND MULTICHANNEL OPTICAL SENSING APPARATUS
USING THOSE

(54) 発明の名称: 光源ユニット、受光ユニット及びこれらを用いたマルチチャンネル光検出装置



(57) Abstract: A multichannel optical sensing apparatus comprises a reaction container (1), a light source unit (2) composed of light-emitting devices (21a-21d) which emit lights having different wavelengths and dichroic mirrors for emission (22a-22d) which are different from one another in the wavelength range of reflectible lights, and light-receiving unit (3) composed of light-receiving devices (31a-31d) and dichroic mirrors for light-receiving (32a-32d) which are different from one another in the wavelength range of reflectible lights. The light-emitting devices are so arranged that the directions of emission are parallel to one another, and the dichroic mirrors for emission are so arranged that the reflected lights travel the same optical path toward the same direction. The light-receiving devices are so arranged that the receiving surfaces are parallel to one another, and the dichroic mirrors for light-receiving are so arranged that the lights from the reaction container (1) are reflected in accordance with the respective wavelengths toward the light-receiving devices.

(57) 要約: 反応容器 1 と、出射光の波長が異なる発光素子 21a~21d 及び反射可能な光の波長の範囲が異なる出射用ダイクロイックミラー 22a~22d で構成した光源ユニット 2 と、受光素子 31a~31d 及び反射可能な光の波長の範囲が異なる受光用ダイクロイックミラー 32a~32d で構成した受光ユニット 3 とを用いる。発光素子は出射方向が平行となるよう配置し、出射用ダイクロイックミラーは反射光が同一の光路を同一方向に通過するように配置する。受光素子は受光面が平行となるよう配置し、受光用ダイクロイックミラーは反応容器 1 からの放出光が波長に応じて反射されて受光素子に入射するよう配置する。



NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

OAPI 特許 (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(84) 指定国 (広域): ARIPO 特許 (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア特許 (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ特許 (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR),

添付公開書類:

— 国際調査報告書

2 文字コード及び他の略語については、定期発行される各 PCT ガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13517

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ G01J3/443, G01N21/64, G01N21/78

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ G01J3/00-3/52, G01N21/00-21/83

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PATOLIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 11-101691 A (Canon Inc.), 13 April, 1999 (13.04.99), Full text (Family: none)	1-3 4-6
X Y	JP 62-245942 A (Canon Inc.), 27 October, 1987 (27.10.87), Full text (Family: none)	3 4
X Y	JP 2001-117013 A (Olympus Optical Co., Ltd.), 27 April, 2001 (27.04.01), Full text (Family: none)	1-5 6

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
03 February, 2004 (03.02.04)

Date of mailing of the international search report
17 February, 2004 (17.02.04)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13517

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>JP 5-93724 A (ORTHO DIAGNOSTIC SYST. INC.), 16 April, 1993 (16.04.93), Full text & EP 0022670 A & US 4284412 A & JP 56016872 A & EP 0022670 A</p>	1-6

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13517

Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The invention of claims 1 and 2 relates to sharing of a common optical axis by a plurality of light-emitting devices, while the invention of claim 3 relates to sharing of a common optical axis by a plurality of light-receiving devices. Although the two inventions have a common point in their solutions, the problems they have solved are different.

Therefore, the inventive concept of the invention of claim 1 and its dependent claims is different from that of the invention of claim 3.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.